

Amendments to the Specification:

Please replace paragraph [0050] with the following amended paragraph:

[0050] Once a connection is established, the data in the pre-fetch buffer is transferred to the requesting PCI agent. This is depicted in Figure 4 as a data transfer 400 from a pre-fetch buffer 320₁ time instance 402 to a channel 1 request virtual store 404. In practice, channel 1 request virtual store 404 and channel 2 request ~~406~~ 408 (discussed below) do not physically exist, but are used herein for illustrative purposes. In practice, data will be received by dual-channel PCI SCSI device 302 and forwarded on an appropriate channel to be stored on the disk drive identified by the original request. These transfer operations are internal to the PCI SCSI device and/or SCSI disk drives and are outside the scope of the present invention.

Please replace paragraph [0052] with the following amended paragraph:

[0052] The presence of a multi-function PCI device creates a problem whenever a connection to that device is established. This results from the fact that there may be multiple (two in the present example) pre-fetch buffers allocated to the same physical PCI device. In order to ensure data integrity under the PCI specification's consumer-provider model, a virtual pre-fetch buffer 407 is employed. This virtual pre-fetch buffer 407 is depicted by the dashed outline box in Figures 4 and 5. In one embodiment, the virtual pre-fetch buffer 407 is controlled by software (i.e., firmware) running on the PCI bridge and/or programmed logic. The virtual pre-fetch buffer 407 is used to map various physical pre-fetch buffers to corresponding requests. As a result, the requesting PCI device can "see" only one pre-fetch buffer at a time, i.e., the physical pre-fetch buffer that currently corresponds to the virtual pre-fetch buffer 407. In the case of data transfer 400, dual-channel PCI SCSI device 302 is only aware of the existence of pre-fetch buffer 302₁ at the point in time the connection exists.

Please replace paragraph [0053] with the following amended paragraph:

[0053] The PCI Bridge will provide data from pre-fetch buffer 320₁ until that pre-fetch buffer runs out of data or the requesting PCI device (dual-channel PCI SCSI device) disconnects the data transfer. Once that transaction is disconnected, the PCI Bridge may retry the read request resulting from channel 2 until the PCI bridge has data to start the transfer. Eventually, data will be present in the pre-fetch buffer allocated to the channel 2 request, as depicted by a pre-fetch buffer 320₂ time instance ~~404~~ 406. ~~In~~ If the presence of data in pre-fetch buffer 320₂ is detected, dual-channel PCI SCSI device 302 is reconnected, with pre-fetch buffer 320₂ becoming the virtual pre-fetch buffer 407. The data in pre-fetch buffer 320₂ are then transferred to a channel 2 request virtual store 408 until the buffer is emptied, as depicted by a data transfer 410.

Please replace paragraph [0055] with the following amended paragraph:

[0055] Continuing in time with the diagram of Figure 4, upon receiving data at channel 1 request virtual ~~buffer~~ store 404, dual-channel PCI SCSI device 320 determines that its original request (which corresponded to the entirety of data 310), was not fulfilled. Thus, it must make another (subsequent) request for the remaining portion of data 310. This request corresponds to a second channel 1 read request (CH. 1. READ REQUEST 2).